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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/579,570	05/17/2006	Gerald Kuenzel	R.307387	5504

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ALEXANDRIA, VA 22314

EXAMINER

MOK, ALEX W

ART UNIT	PAPER NUMBER
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2834

MAIL DATE	DELIVERY MODE
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07/30/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/579,570

Applicant(s)

KUENZEL ET AL.

Examiner

Alex W. Mok

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 May 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 5/17/06.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 42 (fig. 4), 44 (fig. 3). Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 11-17, 26, 27, 29 and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Reed (US Patent No.: 5742111).

For claim 11, Reed teaches a commutator comprising a plurality of laminations (reference numeral 12, see figures 1, 3) each having surfaces which constitute contact faces and being separated by slots (reference numeral 13), and grooves (reference numeral 30) formed in the laminations, the grooves extending in the longitudinal direction of the respective lamination (see figure 1).

For claim 12, Reed illustrates the spacing of the slots and grooves being uniform (see figure 1).

For claims 13 and 14, Reed teaches the grooves to be ranging between 0.25 mm and 0.81 mm (see column 3, lines 6-15), i.e. the depth of the grooves being about 0.5 mm.

For claims 15-17, Reed shows the laminations having at least two grooves (see figure 1).

For claims 26 and 27, Reed illustrates the laminations being disposed on the circumference of the commutator (see figure 1), which would enable it to be embodied as a drum commutator.

For claim 29, Reed discloses the claimed invention of claim 11 as explained above, and also discloses that the commutator is for an electric motor (see the Abstract), i.e. an electrical machine having the commutator of claim 11.

For claim 30, since Reed discloses the electrical machine and its structure as explained for claim 29 above, this would enable the electrical machine to be applied to any type of drive unit for a motor vehicle, i.e. a power window system, etc.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 18-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reed as applied to claims 11-17 above, and further in view of Ircha et al. (German Patent Document No.: DE 10151696 A1).

For claims 18-21, the reference of Reed discloses the claimed invention except for the chamfer being formed on the laminations. It would have been obvious to have this configuration in the invention of Reed, since Ircha et al. provide a similar configuration for the laminations of the commutator (see figure 5, reference numerals 6, 7), and a person of ordinary skill can apply this technique in the invention of Reed for the purpose of improving the noise performance in the commutator.

For claims 22-25, since Ircha et al. disclose the chamfers on the laminations and the chamfers forming acute angles with the contact face (see figure 5), it also would have been obvious to form these angles at about 15° to 20°, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

6. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Reed (US Patent No.: 5742111).

For claim 28, Reed discloses the claimed invention except for the grooves being shorter than the slots. It would have been an obvious matter of design choice to have this modification to efficiently produce the claimed invention, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kamiya et al. (US Patent Application Pub. No.: US 2002/0130584 A1), Moss et al. (US Patent No.: 5949174).

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alex W. Mok whose telephone number is (571) 272-9084. The examiner can normally be reached on 7:30-5:00 Eastern Time, 1st Friday off.

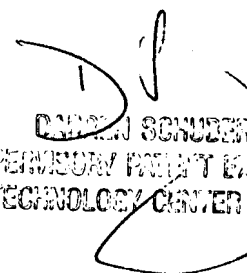
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren E. Schuberg can be reached on (571) 272-2044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2834

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Alex W. Mok
Examiner
Art Unit 2834

AM


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